Volunteer Temperature Monitoring

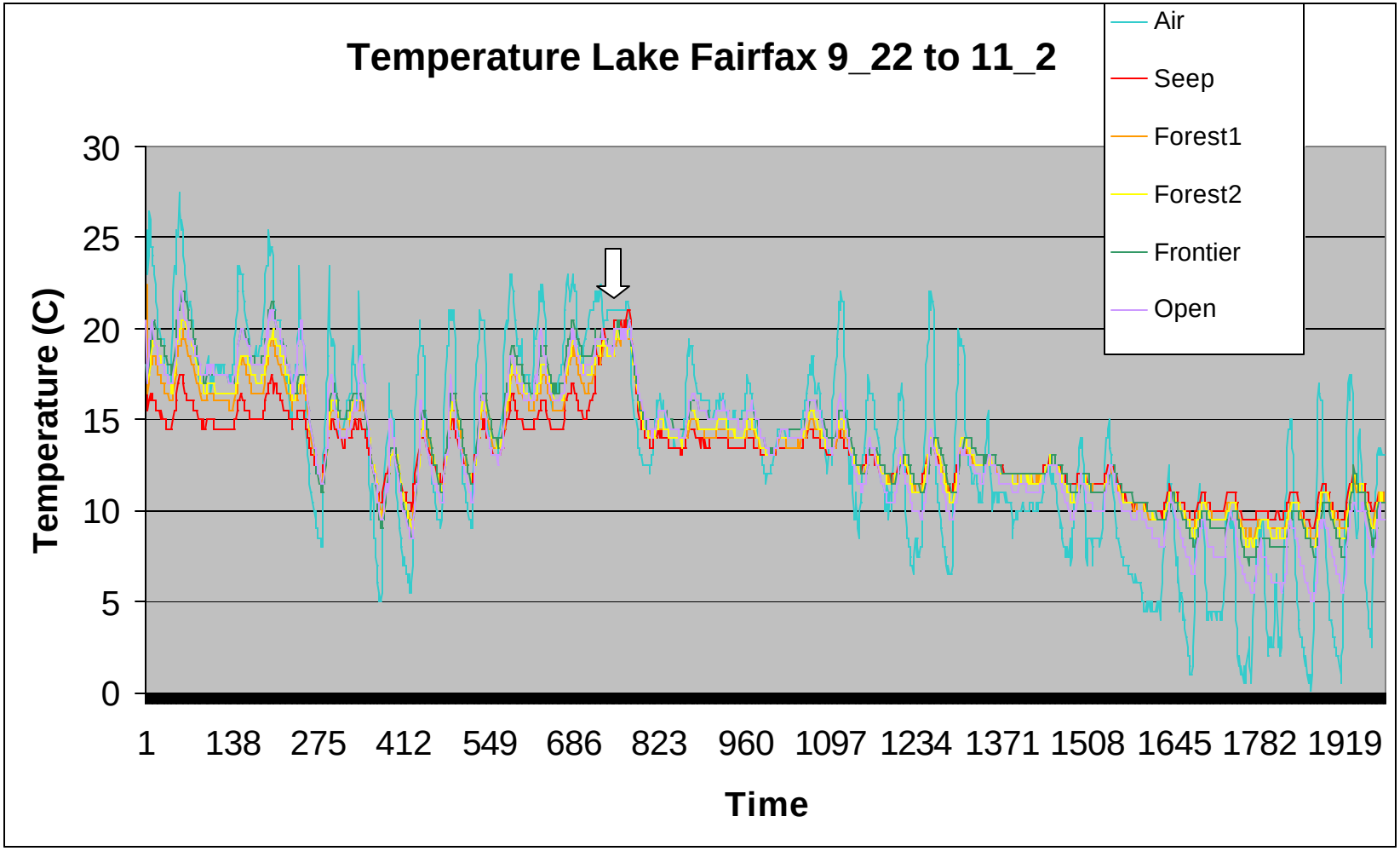
Welcome to the temperature monitoring instructions web site.

The instructions here are for volunteers who have been trained by and are working with the Northern Virginia Soil and Water Conservation District (NVSWCD), the Fairfax County Park Authority (FCPA) and the Dept. of Public Works and Environmental Services (DPWES).

We are monitoring stream temperature in riparian restoration areas.

This is a five year project.

The water temperature data we collect can show seasonal differences, differences between areas we've planted, and areas that aren't planted, even a flood (at the arrow).



Volunteer Temperature Monitoring

Our first training.

The data logger goes into the stream.

A gentle touch.

Volunteer Temperature Monitoring

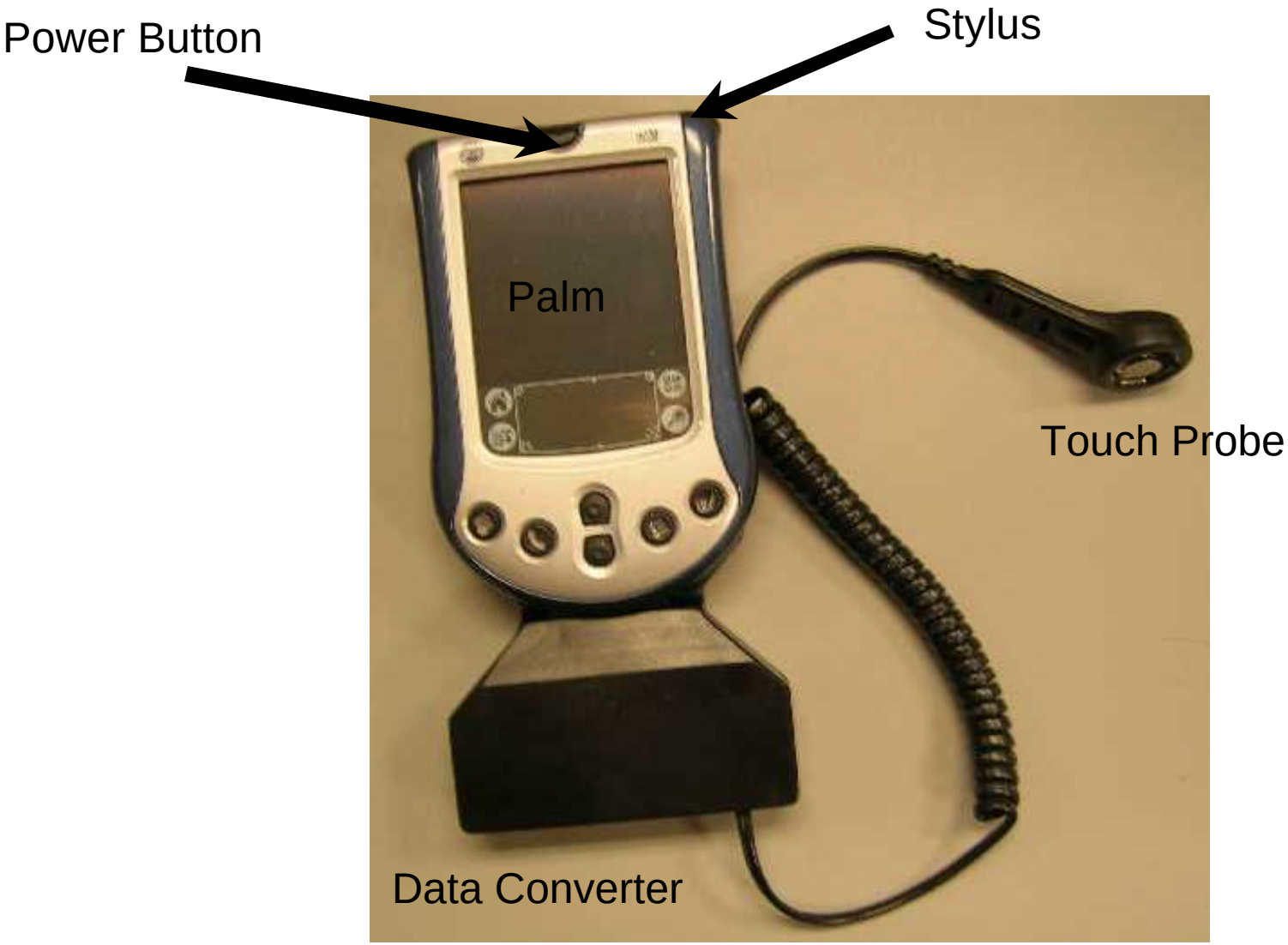
- Volunteers should receive training and scheduling through Joanna Cornell, NVSWCD, joanna.cornell@fairfaxcounty.gov.
- Volunteers will collect the toolkit from the established location.

Volunteer Temperature Monitoring

- Tool Kit
  - iConnection
  - Paper towels
  - Sharp tool, cable ties
  - Data sheet, writing instrument
  - Site Map and directions
  - Current mission names and numbers & Launch mission names and numbers
  - Extra iButtons and Fobs

Volunteer Temperature Monitoring

- Temperature datalogger locations are relatively hidden – make sure you have a map of the site.
- Go ahead and find the first site that you will be downloading from, and turn on the Palm.

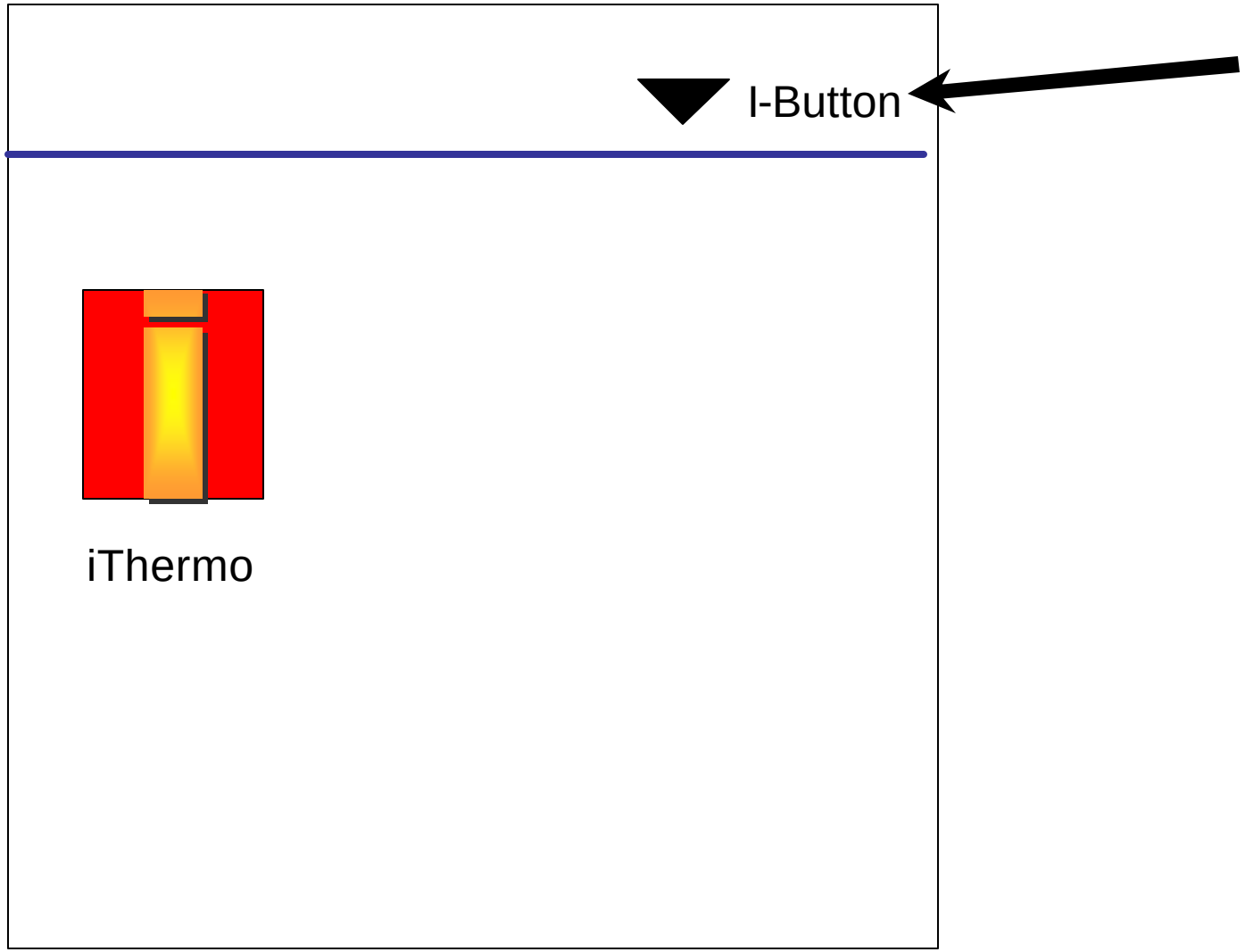


The iConnection consists of a Palm, a Data Converter and a Touch Probe. Press the black button at the top of the Palm to turn the Palm on. The Palm has a touch sensitive screen. Using a stylus, which can be found on the top right hand side of the palm, tap on the screen to navigate.

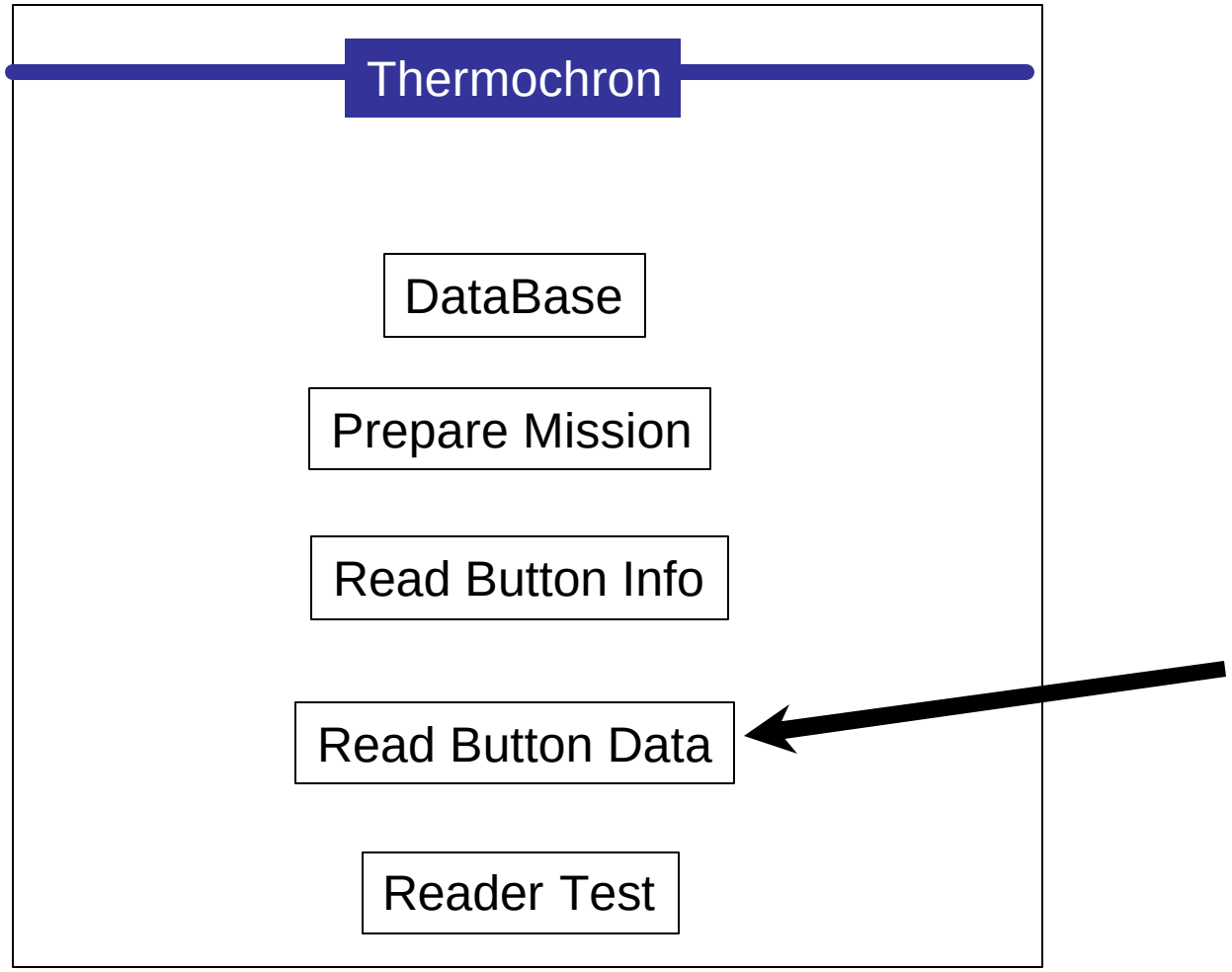
The Stylus. Gently tap the screen of the Palm with this plastic tool.

The touch probe. Note, this is NOT waterproof and very sensitive. It requires a very gentle touch! The iButton just fits in the opening of the touch probe, but it doesn't get forced into the opening.

An iButton. These are tiny data loggers and temperature sensors. They can store up to 2048 measurements.



The main screen of the Palm will give you access to the iThermo program. The menu arrow on the top right will get you to this screen if you are in one of the other programs when you turn the Palm on. Go ahead and start the iThermo program now by tapping the screen with the plastic stylus.

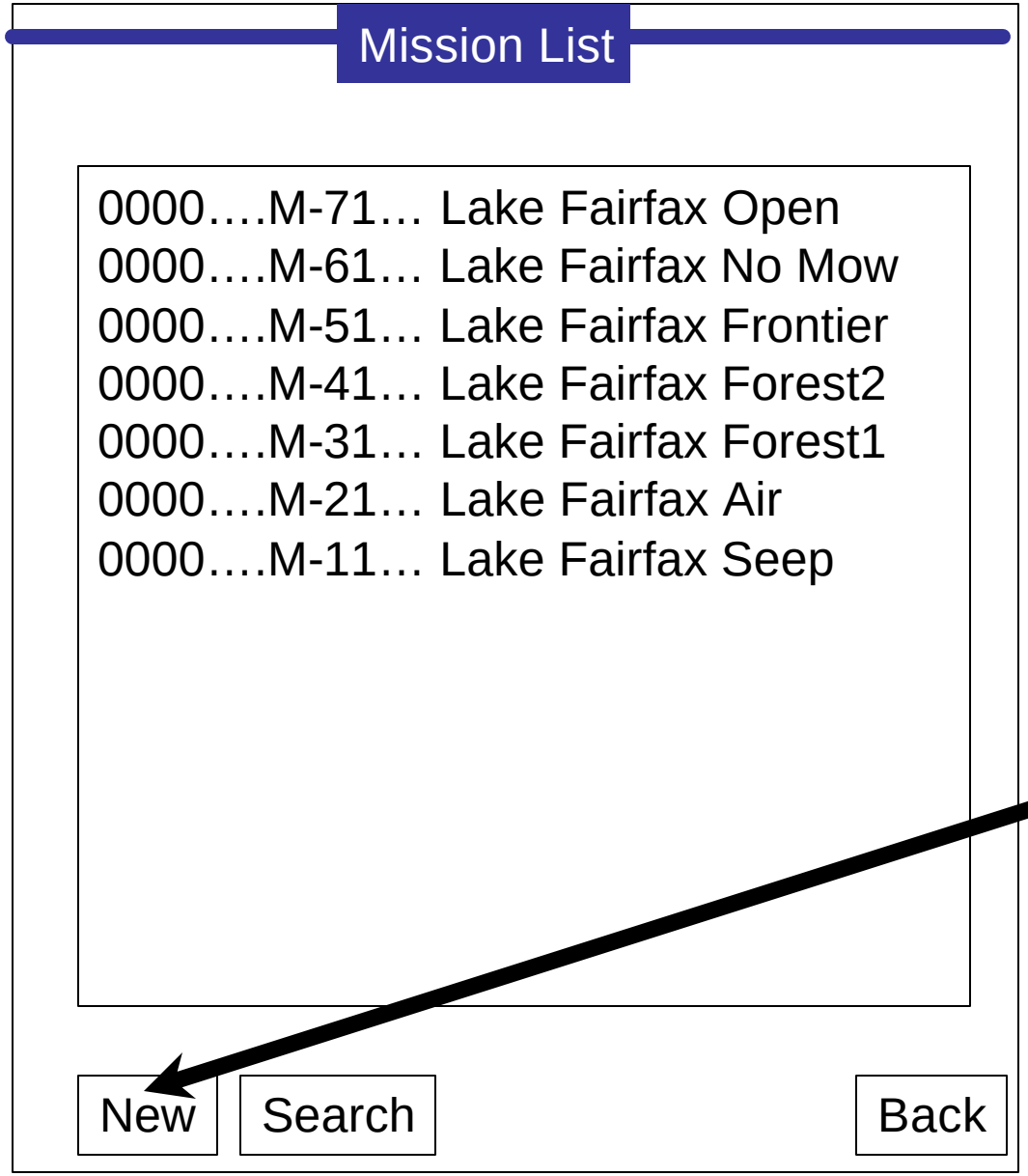


Once the iThermo program is open, the main page has five menu options. If you get lost within the program, keep hitting “Back” until you get to this page and start over.

First, we must read the iButton, that is, remove all the data on the datalogger.

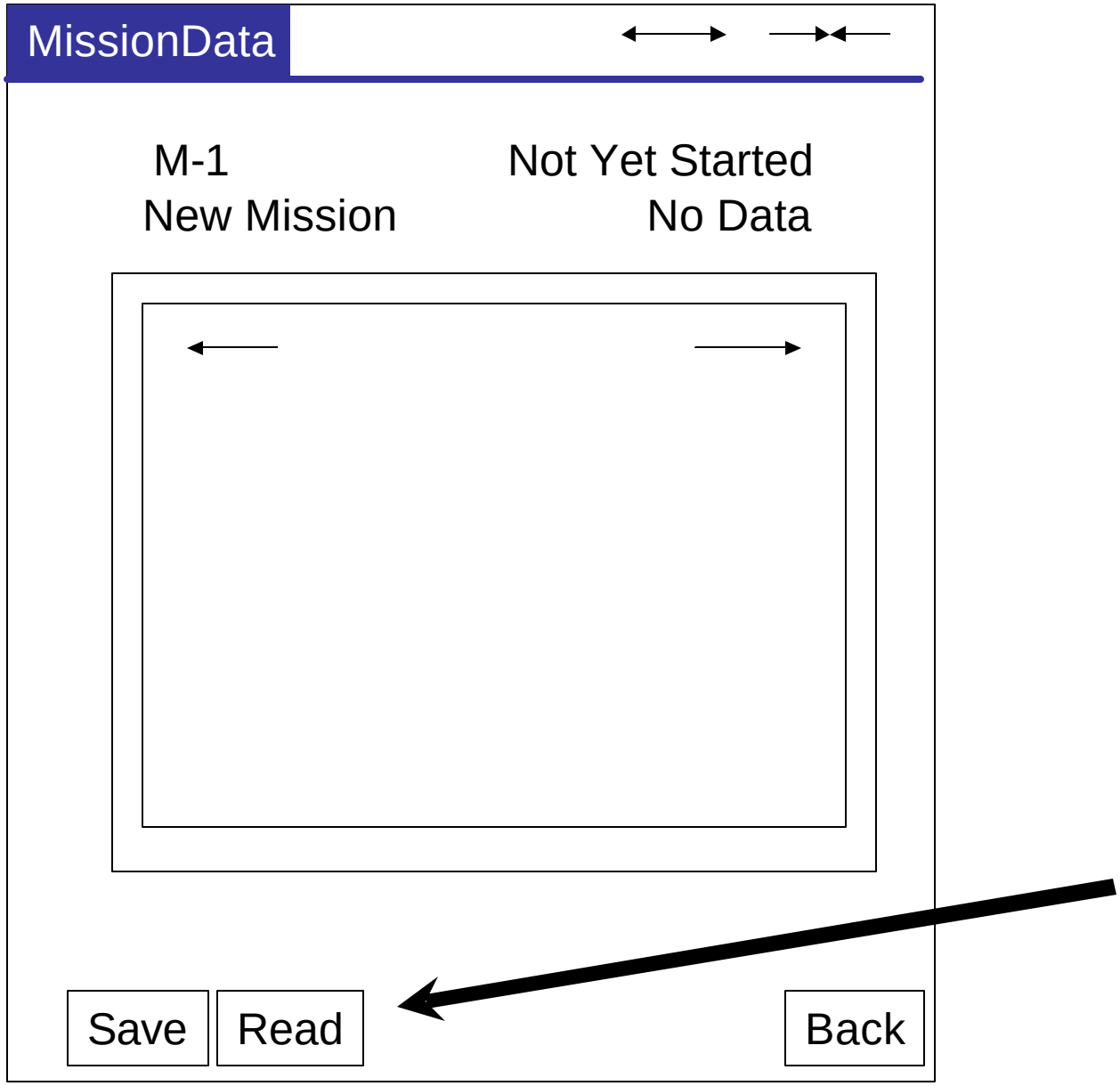
The menu item to read an iButton is “Read Button Data.”

The “Mission List” has all the missions that you’ll be launching.



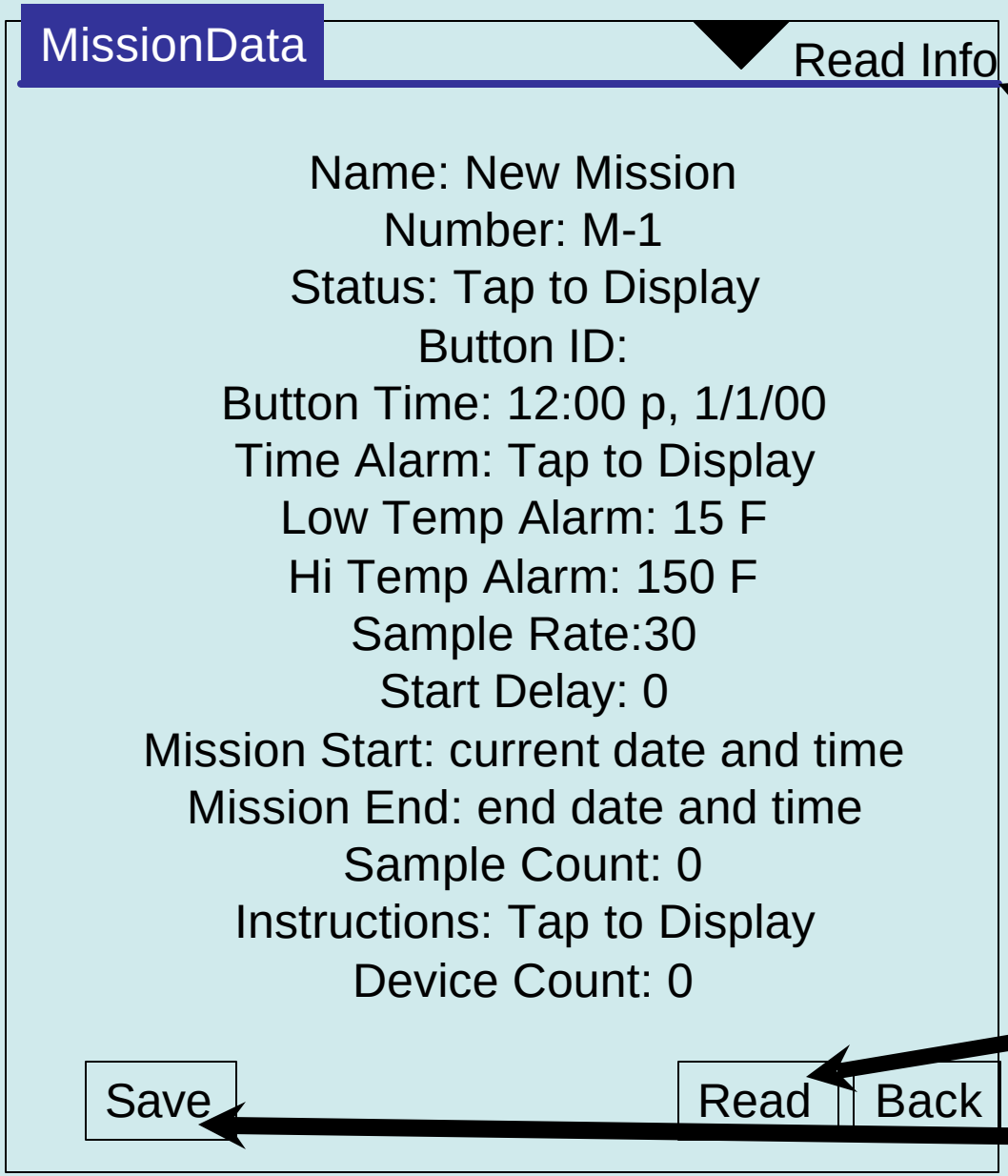
Careful attention to the number of the site and the name of the site will ensure that the proper readout ends up in the right file and that the new mission is correctly launched. It is good to read through all the missions so you are familiar with which order they are in. But for now, just tap “New.”

Hold the touch probe to the dry iButton to establish a connection. Please remember to be gentle.



The mission read out screen will appear. Tap the “Read” button on the Palm while continuing to hold the probe and the iButton together – this will take a few seconds.

Alternate Outcome

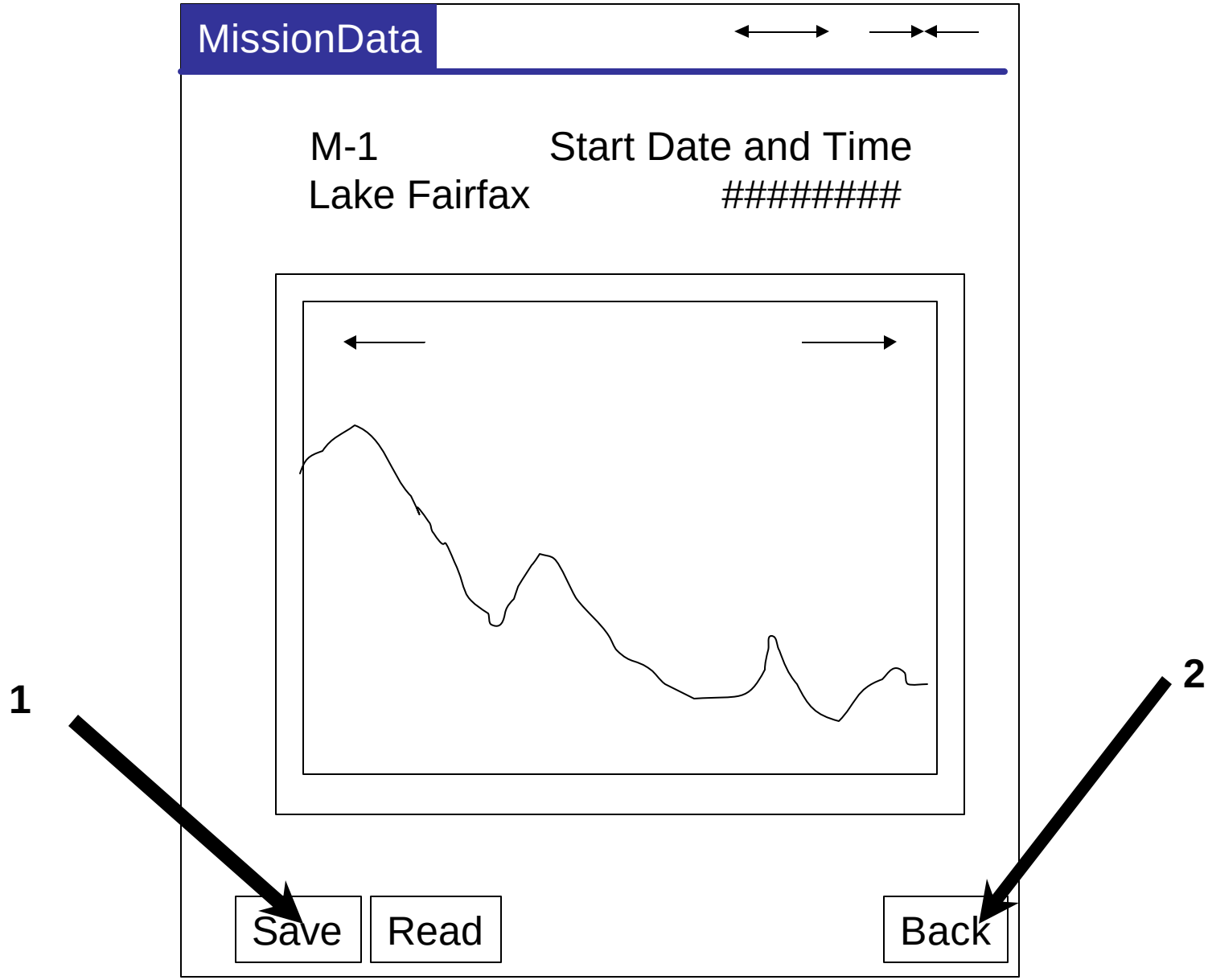


Make sure you are in the "Read Info" mode.

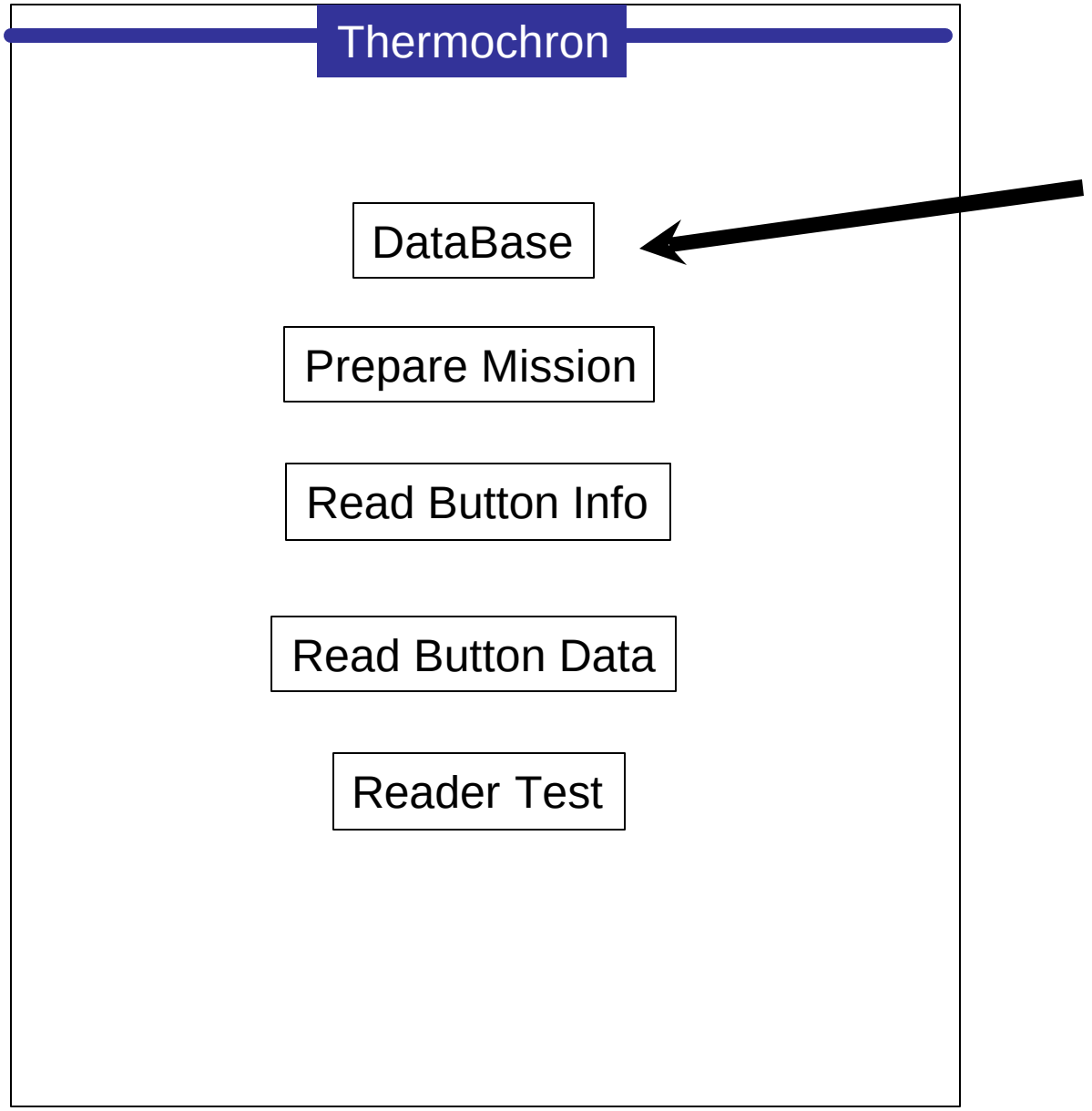
1. Gently tap the screen over the "Read" polygon.

2. Then "Save."

Sometimes, this generic new mission screen shows up instead of the graph page. Its ok - All you have to do is hit "Read" and "Save." If you prefer the graph page, you can find that under the "Read Info" menu in the top right hand corner of the screen.

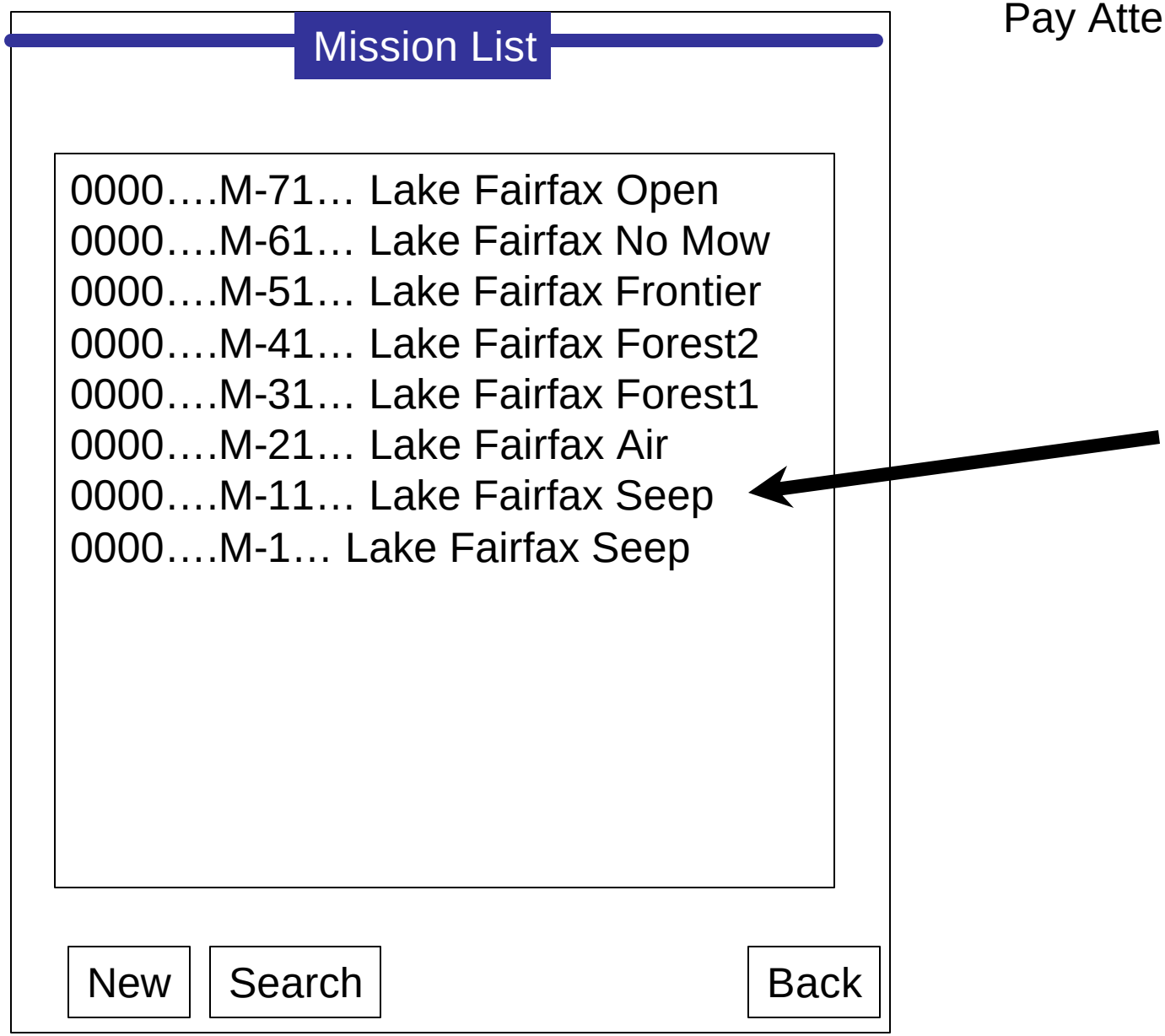


Wait for all the data to read out. Tap “Save” once the data has completely downloaded. Then tap “Back.” You can let go of the iButton temporarily.

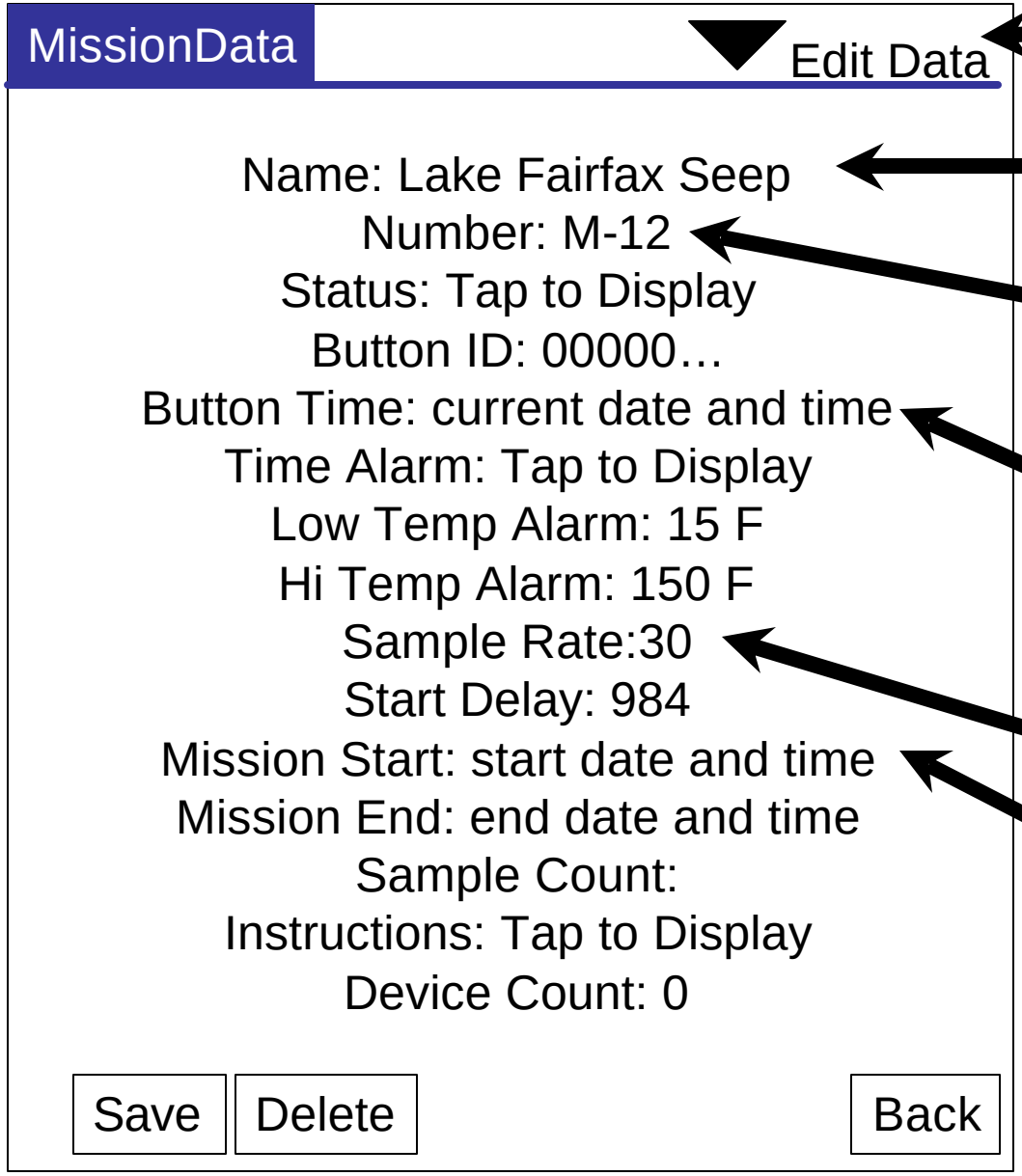


The next step is to launch this same iButton so that it will take data for the next 30 days. On the main menu, tap the “DataBase” option.

Pay Attention



Select the new mission that will be launched. **Warning:** The data you just read now appears in this list. Make sure the new mission name matches the name of the old mission, but has the next higher number, e.g. if you downloaded data from mission M-**1** Lake Fairfax Seep, you will be launching mission M-**11** Lake Fairfax Seep.



Make sure you are in the "edit data" mode.

Check the name and make sure that is where you are standing.

Check the mission number and make sure that it is the right number that you will be launching.

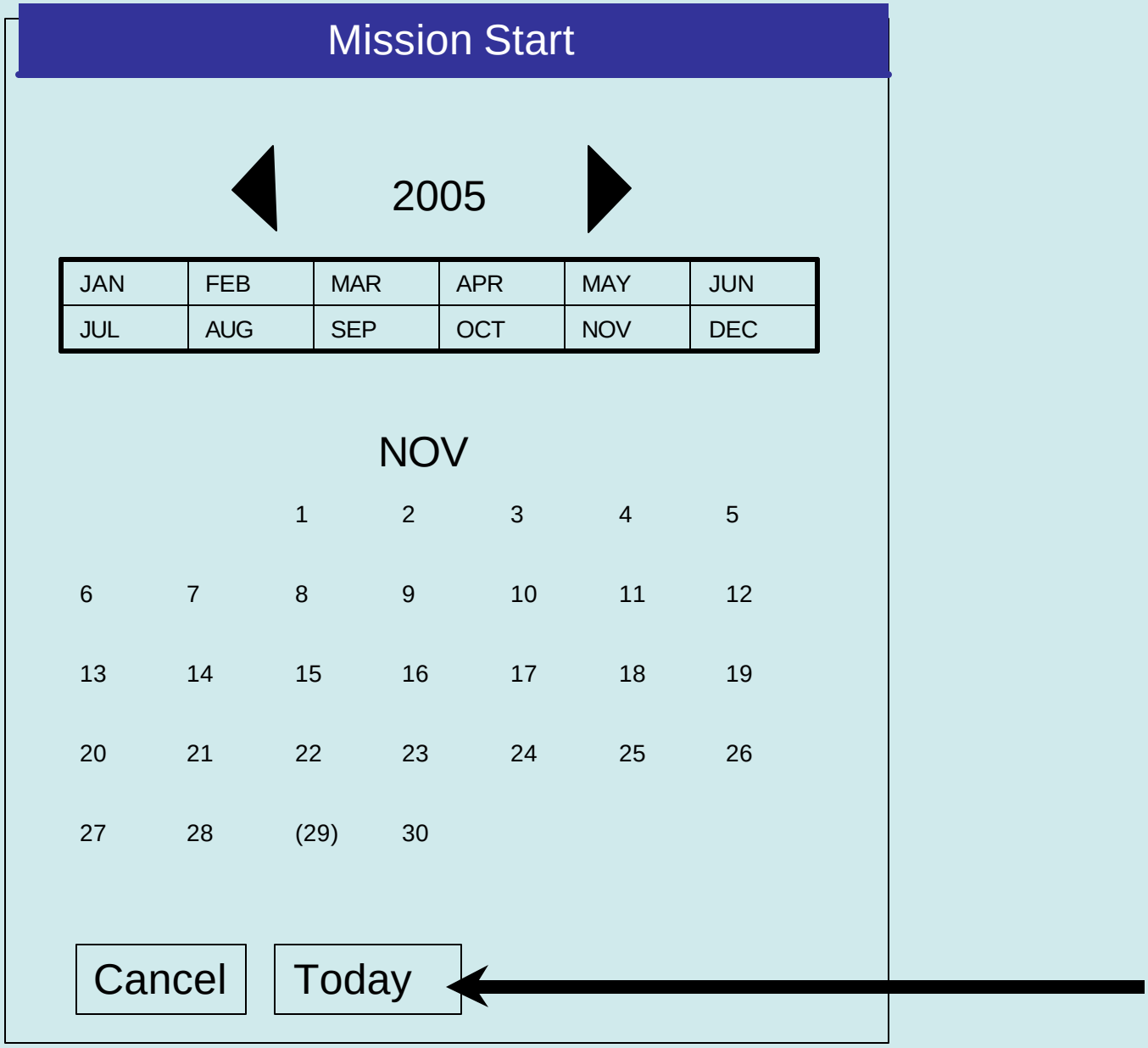
Tap the Current date and time to synchronize the palm with the iButton.

Make sure the sample rate says **30**.

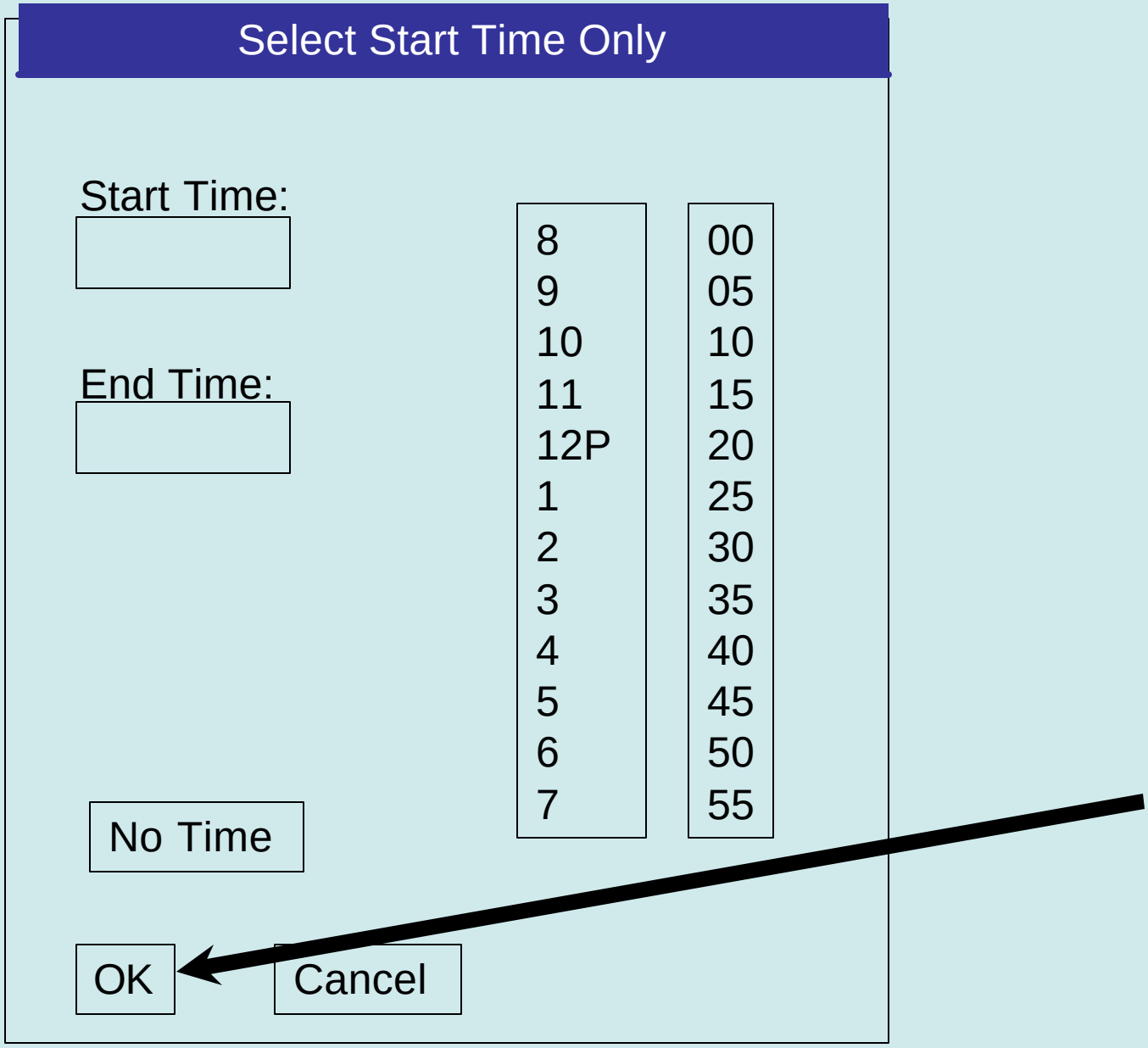
Make sure the mission start date and time is the current date. If not, tap and select from the options provided.

Check the following things to make sure you've selected the right mission. See Appendix A if you have trouble matching any of the above.

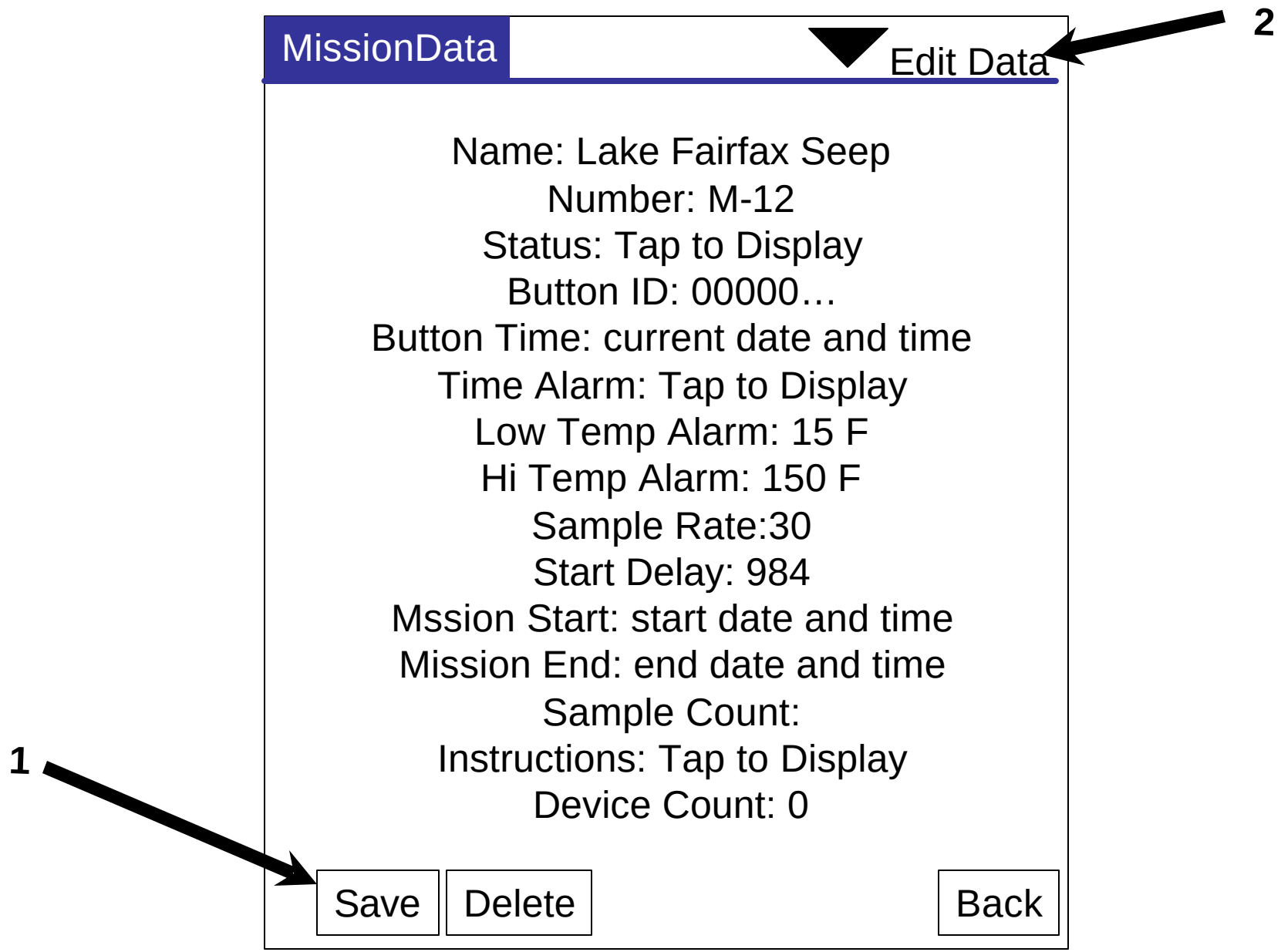
Select Date



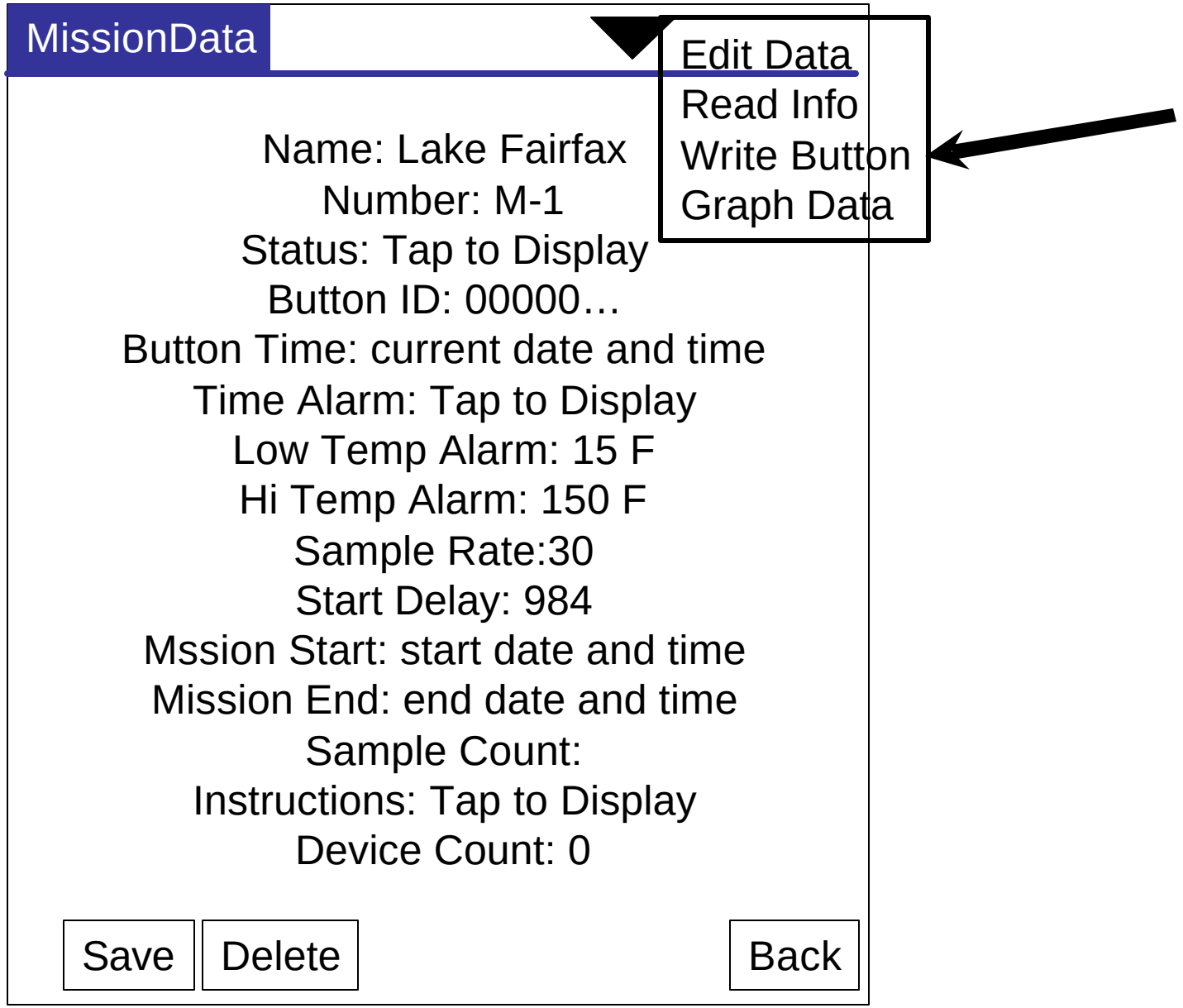
Select today's date.



Select the closest time to the current time. This way, we will minimize holes in the data set.

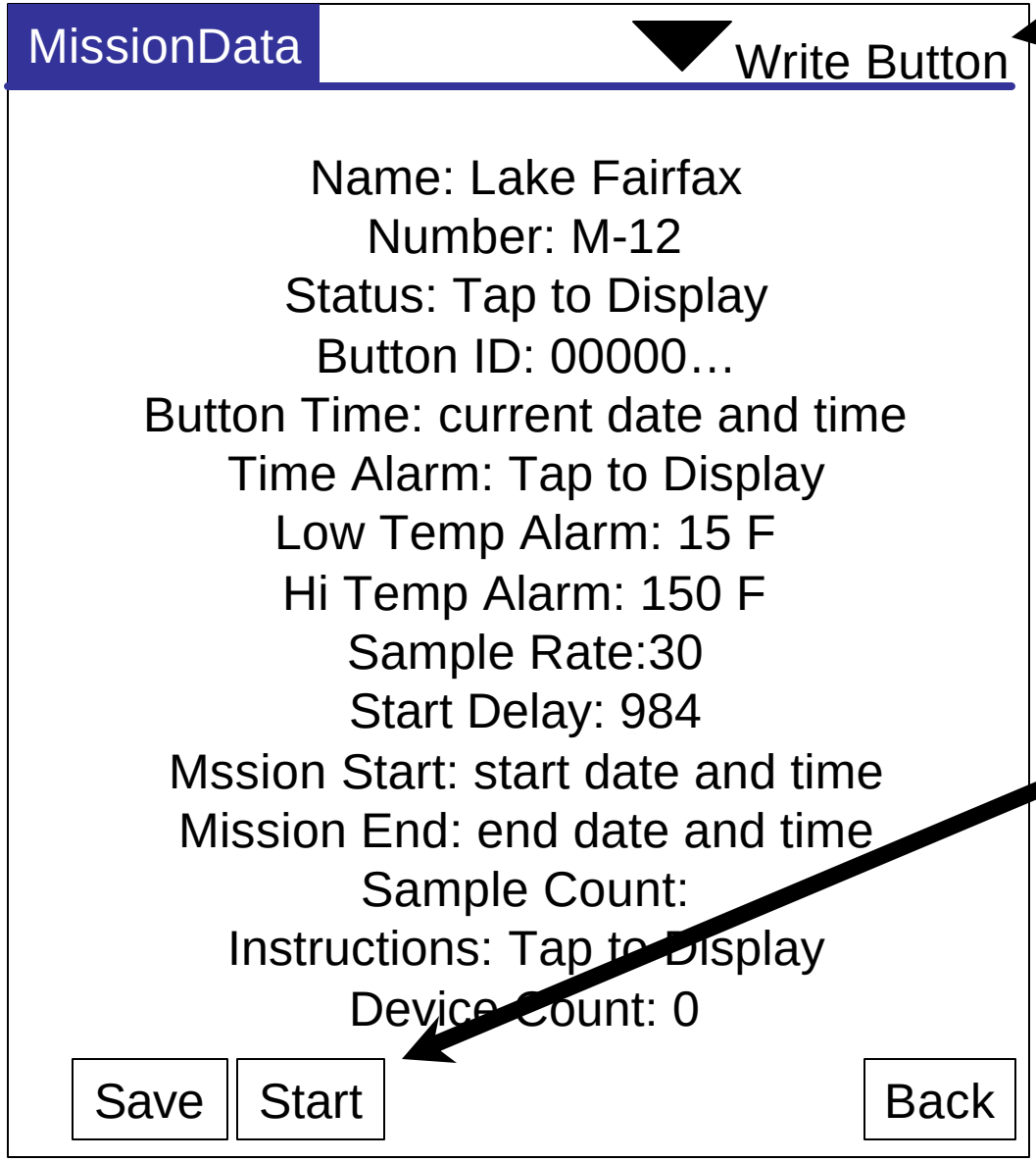


Next you'll want to "Save" so that we have a record of what was launched. Then proceed to the "Write Button" screen - gently tap on the words "Edit Data."



The “Write Button” option is the 3rd one on the list. Gently tap and you’ll be sent to the screen where you’ll launch the iButton on its next mission.

Hold the touch probe to the dry iButton to establish a connection. Please remember to be gentle.



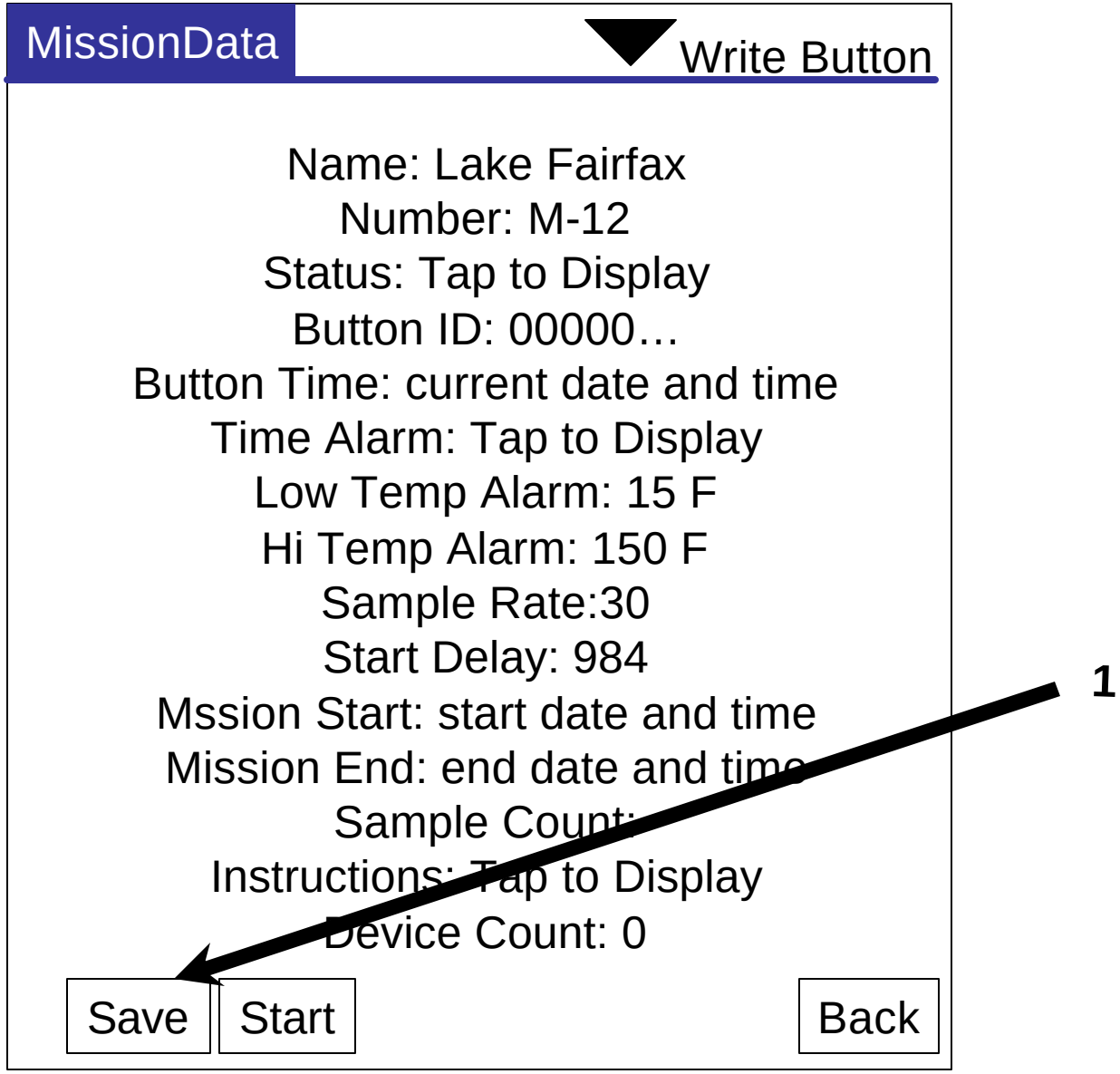
1

Check to make sure you're in the Write Button mode

2

Gently tap "start." Wait for the message that says that the mission was successfully launched.
Then tap "Save" and "Back" to get to the main menu.

Sometimes the old mission will not have ended by the time you need to launch. You'll first have to hit 'Yes' in answer to the question, and then 'Start' to successfully launch. If the iButton will not launch, move the touch probe around on the iButton gently to improve the connection. Other tips in Appendix A.



Then tap “Save” and “Back” to get to the Mission List. You’ll need to tap “Back” again to get to the main menu and read the next iButton.